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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,275	01/25/2001	Igor Tkachov	081513-5	3643

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MILES & STOCKBRIDGE PC  
1751 PINNACLE DRIVE  
SUITE 500  
MCLEAN, VA 22102-3833

EXAMINER

NGUYEN, HANH N

ART UNIT PAPER NUMBER

2662

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/768,275

Applicant(s)

TKACHOV ET AL.

Examiner

Hanh Nguyen

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Application filed on 1/21/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-8, 16, 18, 19, 27, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-8, 16, 18, 19, 27, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

The indicated allowability of claims 6, 7, 16, 18, 27 and 29 are withdrawn in view of the newly discovered reference(s) to Chen et al. (6,580,696 B1). Rejections based on the newly cited reference(s) follow.

### ***Specification***

The disclosure is objected to because of the following informalities: the tracking echo canceller "170" on page 7, line 12 should be changed to tracking echo canceller "180" for consistency to fig. 1.

Appropriate correction is required.

### ***Claim Objections***

Claims 6, 7, 8, 16, 18, 19, 27, 29 and 30 are objected to because of the following informalities: it is not clear whether the "current echo canceller" on line 4 of each claim respectively is referred to the "echo canceller 170" in fig. 1.

Further, it is not clear how the "a tracking echo canceller" on line 3 and "a current echo canceller" on line 4 of each claim are connected in an echo cancelling system. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 16 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 6, 16 and 27, it is not clearly defined what is meant by subtraction of an **extraneous signal** and an estimation of an echo from a received sampled signal.

### ***Drawings***

The drawings are objected to because it is not clear in fig. 1 whether “echo canceller 170” refers to “current echo canceller 170”.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 6, 7, 16, 18, 27 and 29 are rejected under 35 USC 102(e) as being anticipated by Chen et al. (US Pat. No. 6,580,696 B1).

In claims 6, 16 and 27, Chen et al. discloses, in Fig.4, a echo canceller system 56 ( an echo canceller system) comprising EC1 ( current echo canceller) and EC2 (tracking echo canceller). A comparator 124 compares 2 error signals  $e_k^1$  and  $e_k^2$  produced by the two echo cancellers EC1 and EC2 to determine which of the two echo cancellers yields smaller error signal (determination device comparing accuracy of the tracking echo canceller and the current echo canceller). See col.3, lines 5-15 & col.5 , lines 45-60. The EC1 (current echo canceller) is updated. See col.5, lines 5-10. Chen further discloses a first subtractor 116 generates the first

error signal by subtracting synthetic echo signal from real echo signal (the accuracy is based on the subtraction of an extraneous signal and an estimation of an echo from a received sampled signal, col.4, lines 63-67 and col.5, lines 27-30, step 208, fig.5a, step 218, fig.5b).

In claims 7, 18 and 29, as disclosed by Chen et al. in the the rejection of claims 6, 16 and 30, Chen further discloses tracking echo canceller adjusts one or more echo canceller taps based on a known received sync frame ( fig.4 shows the coefficients 256 in the EC1 are updated according to least means square after receiving error signal, step 212, fig.5a and fig.2, col.1, line 65 to col.2, lines 14).

### ***Response to Arguments***

Applicant's arguments with respect to claims 6, 7, 16, 18, 27, 29 have been considered but are moot in view of the new ground(s) of rejection.

Claims 8, 19 and 30 are noe objected to as explained above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vahatalo et al. (US Pat. No. 5737410) discloses Method for Determining the Location of echo in an Echo canceller.

Chujo et al. (US Pat. No. 5,305,309) discloses echo Cancellers.

Sridhar et al. (US Pat. No. 5007047) discloses Adaptive Rate Control for Echo Cancelling Modem.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HANH NGUYEN  
PRIMARY EXAMINER